

Water-Data Report 2008

12202300 OLSEN CREEK NEAR BELLINGHAM, WA

Puget Sound Basin
Strait of Georgia Subbasin

LOCATION.--Lat 48°45'05", long 122°21'08" referenced to North American Datum of 1927, in NW ¼ SW ¼ sec.30, T.38 N., R.4 E., Whatcom County, WA, Hydrologic Unit 17110002, on left bank at downstream side of bridge on North Shore Road, 500 ft upstream from mouth and Lake Whatcom, and 5.8 mi east of Court House in Bellingham.

DRAINAGE AREA.--3.78 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--November 1967 to September 1969, annual maximum, water years 1970-74. October 2001 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 311.8 ft above NGVD of 1929, from survey to Lake Whatcom, City of Bellingham Lake elevation. Prior to 1975 gage at elevation 5.49 ft lower.

REMARKS.--Records fair except for flows above 200 ft³/s and below 0.5 ft³/s and period of record, December 3 to January 2 and January 15 to February 20, which are poor. No known regulation. Diversion rights above station for irrigation and domestic use.

AVERAGE DISCHARGE FOR PERIOD OF RECORD.--8 years (water years 1969, 2002-08) 9.72 ft³/s, 34.94 in/yr, 7,040 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,840 ft³/s, Nov. 19, 2003, gage height, 7.41 ft, (backwater effected from bridge at North Shore Road); maximum gage height, 7.70 ft, Nov. 24, 2004; minimum discharge, 0.13 ft³/s, Oct. 1, 2003.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Jan. 10, 1983, was the highest ever seen by local residents and included flow over the road at gage, elevation 15 ft. Flood documented in USGS letter report by G.T. Higgins, Jan. 16, 1983.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 180 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec 3	1015	*168	*5.67

Minimum discharge, 0.25 ft³/s, Aug. 8, 9, gage height, 4.08 ft.

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
DAILY MEAN VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	6.4	2.7	3.5	8.4	5.4	19	8.1	9.6	2.7	1.2	0.71	2.7
2	7.0	2.4	5.3	9.9	5.0	13	7.5	8.3	2.4	1.1	1.0	2.2
3	4.9	3.2	102	11	4.5	10	7.2	8.7	4.3	1.4	0.70	1.9
4	5.7	3.8	60	13	4.1	9.1	7.8	9.8	14	1.3	0.52	1.5
5	4.0	3.4	31	14	5.9	8.2	8.0	10	12	1.2	0.43	1.3
6	2.7	3.0	21	11	6.4	7.2	8.9	9.5	20	1.4	0.37	1.2
7	6.3	3.1	16	9.2	7.8	7.1	12	8.7	17	1.0	0.32	1.1
8	8.2	3.6	12	8.5	8.6	9.0	13	7.7	14	0.92	0.31	0.91
9	4.4	6.9	9.5	8.2	16	9.6	11	6.6	13	0.86	0.40	0.88
10	3.0	8.8	8.2	11	29	11	11	6.1	16	0.81	2.7	0.82
11	15	7.4	6.5	18	28	17	10	15	14	0.75	0.90	0.75
12	7.4	8.5	6.2	19	24	14	12	11	11	0.69	0.62	0.70
13	4.4	7.1	7.2	32	23	11	21	10	9.5	0.64	0.51	0.64
14	3.2	6.4	8.4	31	17	9.7	17	18	8.0	0.61	0.44	0.60
15	2.4	6.3	12	28	15	9.6	13	19	6.5	0.56	0.40	0.58
16	3.0	20	12	20	14	10	10	15	5.4	0.55	0.36	0.53
17	2.5	18	11	16	12	11	8.9	11	4.9	0.53	0.33	0.50
18	2.4	13	11	13	11	12	8.5	8.7	4.6	0.54	0.36	0.52
19	11	10	17	12	11	11	7.9	7.1	4.0	0.53	0.68	0.58
20	10	7.9	21	10	13	9.6	7.0	9.9	3.6	0.51	2.3	0.81
21	7.7	6.5	16	8.7	12	8.9	6.3	8.6	3.1	0.46	10	1.4
22	20	5.5	16	7.2	12	7.9	5.7	7.4	2.8	0.44	3.3	0.86
23	14	4.7	16	6.4	12	14	5.2	6.6	2.4	0.46	1.9	0.76
24	11	4.1	17	5.9	11	16	4.9	5.6	2.2	0.47	3.0	0.70
25	9.8	3.6	15	5.2	9.2	13	4.6	4.8	2.1	0.43	4.0	0.73
26	7.9	4.1	13	5.0	9.1	12	4.3	4.5	1.9	0.40	2.3	0.77
27	6.2	5.1	11	4.8	10	9.6	4.6	3.9	1.8	0.43	2.7	0.65
28	4.9	4.5	14	4.3	12	8.9	7.1	3.5	1.7	0.40	3.0	0.59
29	4.4	4.3	13	4.9	15	9.2	16	3.2	1.5	0.43	5.0	0.53
30	3.6	3.6	11	4.7	---	8.7	13	2.9	1.3	0.50	5.5	0.49
31	3.1	---	9.2	5.2	---	8.6	---	2.6	---	0.50	3.8	---
Total	206.5	191.5	532.0	365.5	363.0	334.9	281.5	263.3	207.7	22.02	58.86	28.20
Mean	6.66	6.38	17.2	11.8	12.5	10.8	9.38	8.49	6.92	0.71	1.90	0.94
Max	20	20	102	32	29	19	21	19	20	1.4	10	2.7
Min	2.4	2.4	3.5	4.3	4.1	7.1	4.3	2.6	1.3	0.40	0.31	0.49
Ac-ft	410	380	1,060	725	720	664	558	522	412	44	117	56
Cfsm	1.76	1.69	4.54	3.12	3.31	2.86	2.48	2.25	1.83	0.19	0.50	0.25
In.	2.03	1.88	5.24	3.60	3.57	3.30	2.77	2.59	2.04	0.22	0.58	0.28

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	8.34	22.4	19.1	19.5	15.1	11.8	10.2	4.25	3.00	1.22	1.14	2.02
Max	31.0	65.3	43.2	30.0	33.5	21.3	17.3	8.49	6.92	2.94	2.95	5.37
(WY)	(2004)	(2005)	(2002)	(2006)	(2002)	(2007)	(1969)	(2008)	(2008)	(2005)	(1968)	(1968)
Min	0.33	3.12	6.52	11.8	7.27	5.01	2.77	2.34	1.13	0.52	0.22	0.35
(WY)	(2007)	(2003)	(2003)	(2008)	(2005)	(2005)	(2004)	(2004)	(2003)	(2004)	(2003)	(2003)

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SUMMARY STATISTICS

	Calendar Year 2007	Water Year 2008	Water Years 1968 - 2008
Annual total	3,090.87	2,854.98	
Annual mean	8.47	7.80	9.72
Highest annual mean			13.3
Lowest annual mean			5.20
Highest daily mean	102 Dec 3	102 Dec 3	951 Nov 19, 2003
Lowest daily mean	0.22 Sep 11	0.31 Aug 8	0.15 Sep 5, 2003
Annual seven-day minimum	0.24 Sep 9	0.43 Jul 23	0.17 Aug 31, 2003
Annual runoff (ac-ft)	6,130	5,660	7,040
Annual runoff (cfsm)	2.24	2.06	2.57
Annual runoff (inches)	30.42	28.10	34.94
10 percent exceeds	18	16	19
50 percent exceeds	4.0	6.5	4.6
90 percent exceeds	0.40	0.59	0.41

